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Abstract

Spanish is one of the most widely spoken languages in the world. Quechua is the largest indigenous language family to constitute the first language (L1) of second language (L2) Spanish speakers. Despite sheer number of speakers and typologically interesting contrasts, Quechua–Spanish second language acquisition is a nearly untapped research area, due to the marginalization of Quechua-speaking people. This review considers contributions to the field of second language acquisition gleaned from studying the grammars of Quechua speakers who learn Spanish as well as monolingual Quechua and Spanish speakers in the contact area. Contribution to the documentation and revitalization of the Quechua languages is discussed as an ethical and scientific imperative.

Keywords

Quechua, Spanish, second language acquisition, morphosyntax, phonology, sociolinguistics, pragmatics, documentation of endangered languages

I Introduction

The purpose of this review article is to answer the following questions: what do we know about the acquisition of Spanish by Quechua speakers, and how does what we know contribute to our knowledge about second language acquisition (SLA) in general? Why should we care?

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Spanish is the second most widely spoken language worldwide, with recent Ethnologue numbers at 329 million speakers (Lewis, 2009); 60 million of them second language speakers. Quechua is the largest indigenous language family of the Americas, with approximately 13 million speakers in Bolivia, Peru, Ecuador, Argentina, and Chile (Lewis, 2009). Monolingualism in Quechua is rare and concentrated mostly among rural women and among children who have not yet entered school; others learn Spanish with some degree of proficiency in the course of their lives, and immersion at school is often the first point of exposure. If research relevance were measured by sheer number of speakers, we would expect there to be many studies of the second language acquisition of Spanish by Quechua speakers. Nevertheless, the poverty of native speaker communities works in myriad ways as a disincentive and barrier to the production of reliable and timely studies.

Spanish and Quechua offer typologically interesting structural contrasts and similarities. Although they have been in contact for around 500 years, the two languages are genetically unrelated and superficially quite dissimilar. Both languages instantiate subject–verb agreement and some sort of object–verb agreement. Both exhibit case marking. Both languages allow null subjects. In terms of contrasts, Quechua word order is canonically SOV (subject–object–verb) in main clauses, while Spanish is SVO (subject–verb–object). Quechua allows null objects with definite, specific reference, while Spanish does not. Spanish instantiates determiners and exhibits grammatical gender, while Quechua does not. Quechua allows for the morphosyntactic expression of pragmatic features such as evidentiality, topic, and directional movement toward or away from the speaker; such expression is absent from Standard Spanish morphology. Quechua is an agglutinating language, while Spanish is isolating. These similarities and differences make the Andes a prime area for the exploration of a multitude of hypotheses related to language universals, access to universal grammar, transfer of functional categories and their feature specification, ultimate attainment and language change.

This article will begin with a section on foundational work on the characteristics of the first language (L1) and second language (L2); it focuses next on several in-depth studies of linguistic phenomena, and finally treats the role of the SLA researcher in relation to issues of language endangerment. The review is not meant to be exhaustive, but rather to outline the kinds of questions posed and answered in recent studies, especially those that have influenced first and second language acquisition theory most.

II Foundational work

I Foundational work on Quechua and its acquisition

In order to complete SLA research on any language pair, foundational work must be carried out in several areas: documentation and analysis of the adult monolingual varieties of the L1 and L2, and investigation of child acquisition of the L1 and L2. These allow for the interpretation of observations about the end-state grammars of those who acquired L2 at various stages of development, sometimes in comparison with those who acquired the same L2 under similar circumstances but with different L1s. Investigations of early,

middle and late stages of acquisition of the L2 are usually built on the shoulders of preliminary work on the L1, target and end-state grammars. SLA researchers who work with European languages often take for granted that university-educated native speakers have carried out much foundational work, which is not the case in the Andes.

Grammars of many of the Quechua languages have been written by non-native speakers (for references, see Mannheim, 1991; Kalt 2002: 40, 47). Only two Cuzco-Collao Quechua grammars have been written by native speakers for an audience of modern-day linguists: Cusihuamán (1976), a comprehensive grammar of Cuzco Quechua; and Plaza (1987), a brief generative analysis of pronominal objects in Norte de Potosí Quechua.¹ The remaining recent grammars written by native speakers are pedagogical. For example, Soto (2006) is a pedagogical grammar of Ayacucho Quechua; Godenzzi and Vengoa² (1994) and Quiroz (2008) are pedagogical grammars of Quechua intended for Cuzco and South Bolivian teachers in bilingual schools. All of the native-speaker grammars were written in Spanish; none in Quechua, which remains largely an oral culture.³ Without exception the native speakers who have attained sufficient linguistic preparation to write grammars have dedicated their professional lives either to the teaching of foreigners or to intercultural bilingual education, teacher preparation and curriculum development. This leaves many gaps in the documentation of Quechua and its acquisition.

Some of these gaps have been filled recently by outside linguists. Notably a handful of studies by Ellen Courtney have systematically documented the grammatical acquisition of Quechua before children are exposed to Spanish at school (Courtney, 1999, 2002, 2006, 2008, 2010; Courtney and Saville-Troike, 2002). Courtney's invaluable experimental work has been carried out in partnership with native-speaker interviewers and transcriptionists, and examines the acquisition of verbal syntax and semantics, relative clauses and evidential morphemes.

2 Foundational work on the target: Andean Spanish

There are many interesting varieties of second language Spanish spoken in the Andean countries, but only the varieties resulting from contact with indigenous languages are labeled Andean Spanish (Castellano Andino). This is a contact language resulting from both simultaneous and sequential acquisition of indigenous languages and Spanish. The first languages for speakers of Andean Spanish, in order of population magnitude are Quechua and closely related Aymara,⁴ Guaraní, and more than a hundred Amazonian and smaller highlands languages.⁵ It is useful to note that not all speakers of Andean Spanish are second language acquirers; not all speak Quechua, and among those that do, not all speak the same variety of Quechua. To distinguish monolingual Andean Spanish from that spoken by second language acquirers, we use the term Quechua-Spanish for interlanguages, and Andean Spanish when discussing the end-state of bilingual acquisition and the steady state of monolingual Spanish speakers in the region.

The following studies help gain an overview of Quechua's hypothesized impact on Andean Spanish. A study by Niño Murcia (1995) details high frequency of gerunds in the North Andean regions of Colombia and Ecuador and attributes these to Quechua influence. A classic late 20th century overview of the phonological and syntactic characteristics of Andean Spanish grammar in Peru is found in the work of Alfredo Escobar

(1978). Ana María Escobar takes this work forward with more extensive quantitative analysis (1990). Rodolfo Cerrón-Palomino looks at characteristics of Andean Spanish in his latest compendium (2003). A recent major corpus analysis of spoken and written Bolivian Spanish by Stefan Pfänder (2010) examines the influence of Quechua on Spanish in the Cochabamba region.

III Review of in-depth studies of linguistic phenomena

I Social factors in Andean Spanish

An exemplary sociolinguistic study that illustrates the careful correlation of social and linguistic factors is the doctoral dissertation of Godenzzi (updated ms. 2009) concerning the Spanish spoken in Puno, Peru, a contact area with Quechua and Aymara on the border with Bolivia. Godenzzi's extraordinarily meticulous clustering of social and linguistic data show that in fact, multiple grammars of Spanish coexist in the same city, and speakers of different varieties are consciously aware of maintaining differences to mark solidarity and identity within a complex social structure.

Godenzzi avoids the temptation to assume that all changes to the target grammar arise from transfer of properties from the indigenous source. He considers evolution of particular linguistic phenomena within varieties of Spanish outside the Amerindian contact areas before discussing the properties of Quechua and Aymara that might have transferred.

He considers four social indices arranged along two axes when eliciting data from speakers: one containing information about ethno-linguistic origin and geographic mobility, the other an economic and educational axis. His data consist of 173 recorded interviews with speakers in the city of Puno of virtually all ages, genders and a wide range of occupations. Gaps in the graph are informative: for example, there is no one strongly identified with the prestige dialect of Spanish from Lima or the Coast who is low on the economic/educational scale; on the other hand, there is no one strongly identified with rural Quechua or Aymara language and ethnicity who is high on the economic/educational scale. This association of indigenous languages with economic and educational disadvantage is striking and without doubt is related to their endangerment.

Godenzzi overlays the social groupings above on the analysis of various clusters of linguistic traits. I will detail two here: the phonological cluster (retention vs. delateralization of the opposition /λ/-/y/) and the morphosyntactic cluster (object pronoun use).

In terms of retention of the /λ/-/y/ opposition, he notes a general tendency in other varieties of Spanish toward loss of the opposition, which is resisted actively in Puno among those most identified with the city as a place of origin and with indigenous groups of low economic and educational status; he attributes this to reinforcement by the existence of the same segmental opposition within Quechua and Aymara. Outsiders from Lima are partly distinguished by their loss of this opposition, a trait known as *yeísmo*. He notes that linguistic features of L1 are more likely to transfer or be maintained in L2 if there is structural congruence of some sort between the two sets of features; whether in the standard variety of the target language or within the inventory of its features historically.

In the section on object pronouns, Godenzzi highlights four strategies used by speakers of Spanish in the city of Puno to correlate deictic and other features with object pronouns.⁶ The social distribution of these forms is as follows: informants from outside Puno associate the most restricted set of features with these pronouns; those from Puno for whom Spanish is a first language use an expanded set; while those who were born in rural areas with Quechua or Aymara as L1 use an even larger superset. All of these feature sets are available within non-Andean varieties of Spanish spoken elsewhere, but they have been appropriated in a special way by residents of Puno to mark social identities.

In addition to strategies consistent with non-Andean varieties of Spanish, Godenzzi finds a pattern of ‘difficult to interpret’ pronominal forms. These forms remain an intriguing area for investigation and suggest restructuring of the featural system of Spanish in ways that reflect some traits of Quechua and Aymara morphosyntax. Again, the larger set of interpretive and expressive possibilities correlates with the indigenous social group.

2 Acquisition of phonology in Quechua–Spanish

Second language acquisition of phonology is an area of human language in which critical periods are notable and transfer from L1 most persistent (Odlin, 1989: 113–19). Even though most Quechua–Spanish speakers acquire Spanish in childhood, there are distinguishable properties that characterize their speech and mark them as indigenous. We mentioned the retention of the /*ɲ*–/y/ distinction above which is one in which Quechua has more phonological distinctions than standard varieties of Spanish.

Quechua makes fewer distinctions than Spanish in the vowel system; having only three vowels with distinctive features: /i/, /u/ and /a/. The salience to the average person of this smaller inventory in Quechua and its association with speakers of low social and educational standing leads to enormous stigma for those who transfer features of the system to their Spanish pronunciation (Cerrón-Palomino, 2003: Chapter 2).⁷ Two interesting studies by Guion et al. (2000) and Guion (2003) explore the effects of age of acquisition of L2 and continued use of L1 on the pronunciation of L1 and L2 respectively.

Prosody is another area where cross-linguistic influence may be felt. A recent prosodic study of Quechua, Andean Spanish and Lima Spanish (O’Rourke, 2005) shows that certain features of both Spanish and Quechua prosody, such as a rising or falling intonation at the end of questions, is maintained in the two languages without evidence of transfer. Other features such as patterns of tonic peak alignment in broad focus sentences, and the alignment of prenuclear peaks within the stressed syllable, suggest that prosodic features of Quechua have influenced the Spanish spoken in Cuzco in these subdomains.

None of the above studies take child data into account; only end-state data is considered. Early and mid-stage aspects of the acquisition of Quechua–Spanish phonology remain relatively unexplored.

3 Acquisition of syntax in Quechua–Spanish

Syntactic acquisition is one of the few areas where developmental studies have been carried out. Work by Kalt (2002) presents data from 16 monolingual and 84 bilingual

Bolivian children residing in rural and urban-peripheral areas; from the earliest ages they are immersed in Spanish in school until they reach puberty (ages 6–14 years). Kalt's study uses a task adapted from Deutsch et al. (1986) to test children's comprehension and production of the third person object pronoun *le* vs. reflexive *se*.

Because the underlying structure of Quechua and Spanish sentences is more similar in locative rather than possessor contexts, Kalt claims that greater facility interpreting locative sentences should provide evidence in favor of transfer from L1. Such evidence of transfer is not found. A pilot study (Kalt, 2009) replicates the task in Quechua among 15 schoolchildren outside Cuzco, and a further replication among 50 rural Cuzco Peruvian and 50 rural Chuquisaca Bolivian schoolchildren is underway. Preliminary results indicate greater subtlety in what might be expected to transfer from L1 than was assumed in Kalt (2002).

Another developmental study by Luján et al. (1984) takes a Greenbergian approach. This study relates theories of second language acquisition to theories of linguistic change, and investigates the relative merits of the Universal Consistency Hypothesis (UCH; Hawkins, 1979) vs. the Trigger-Chain Theory (Lehmann, 1971, 1973). As described in Luján et al. the UCH claims that 'linguistic change must take place within the bounds imposed by synchronic universals, thereby excluding violations of them at any stage in the evolution of a language' (1984: 347). The Trigger-Chain Theory 'holds that linguistic change must spring from an initial violation of a synchronic universal. This violation in turn triggers subsequent changes in order to restore consistency with the putative universals' (1984: 347). Luján et al. investigate which theory could best account for a sequence of stages in the word order of Quechua-speaking children's Spanish sentences.

They analyse data collected by the Peruvian Ministry of Education using recordings of the elicited and spontaneous utterances of three 5-year-olds, three 7-year-olds and three 9-year-olds in the cities of Cuzco, Ayacucho, Huaraz and Puno. Since immersion in Spanish at school begins between ages 5 and 6, we would expect the 5-year-olds to reflect the earliest stage of Spanish exposure. Nine hours of tape recorded conversations in Spanish included a random sampling of an adult interviewing a child, a child interacting with peers and a child interacting with peers plus the adult interviewer. The data show the youngest children exhibiting a slightly greater tendency to utter clauses with OV than VO word order in Spanish, progressing to a much greater tendency toward VO ordering after four years of immersion in Spanish at school. The order of constituents within noun phrases is also tested: genitive noun vs. noun genitive and adjective noun vs. noun adjective. For results, see Tables 1 and 2.

The authors claim that 'Quechua-speaking children in Peru impose the syntax of their native language on their Spanish speech, in particular, its word order' (Luján et al., 1984: 343). However, there is no clear evidence here of a Quechua-like early stage, even among 5-year-olds, prior to a full-blown immersion in Spanish. Still, there is movement toward the Spanish standard; within four years of immersion, children use OV word order only 30% of the time. These results might be better put in perspective if we had an equivalent sample of the word order of children speaking their native Quechua and monolingual Spanish children speaking their native Spanish, as well as word order samples from the local adult populations. The results from this small sample do show that changes emerge sequentially, with verbs and objects moving toward the target order prior to nouns and

Table 1 Word orders predicted in child Quechua–Spanish

Quechua	Early stage	Standard Spanish
SOV	SOV	SVO
GN	GN	NG
AN	AN	NA

Notes: A = adjective, G = genitive, N = noun, O = Object, S = subject, V = verb

Source: adapted from Luján et al., 1984: 344

Table 2 Word orders found in child Quechua–Spanish

Word orders	Age 5	Age 7	Age 9	Coefficients for age and syntactic category
OV/VO	51% / 49%	40% / 60%	30% / 70%	.602
GN/NG	63% / 37%	54% / 46%	36% / 64%	.481
AN/NA	91% / 9%	60% / 40%	38% / 62%	.471
Coefficients for age and syntactic category	.373	.502	.625	

Notes: A = adjective, G = genitive, N = noun, O = Object, V = verb; VARBRUL 2S calculates maximum likelihood estimate of coefficients

Source: Luján et al., 1984: 359

genitives, and nouns and adjectives following. The authors conclude that the Universal Consistency Hypothesis best accounts for this sequence of acquisition.

The most complete child Quechua–Spanish study to date is Sánchez (2003), which examines changes to the syntax of Quechua after exposure to Spanish as well as vice versa. This is a comparison of school-age children's interpretation and production of sentences with regard to the direct object system. The experiment investigates three populations of 8–13-year-olds: monolingual children living in Lima with at least one bilingual caregiver; bilingual children in Lamas where Amazonian Quechua predominates, and Ulcumayu where Central Quechua predominates.

Sánchez finds Spanish influence on the Quechua of these children as well as Quechua influences on their Spanish. Changes to Quechua include: absence of obligatory accusative marking on direct objects; emergence of indefinite determiners in a language with no determiners; and a higher frequency of post-verbal objects in an SOV language. Changes to Spanish include: emergence of a null object pronoun with definite, specific reference, which is generally disallowed in Spanish; feminine clitic pronouns with masculine antecedents; and instances of pre-verbal, non-focalized objects in an SVO language (2003: 6–7). Sánchez maps out the functional feature specifications that must have changed in the two languages to allow emergence of these new structures.

To account for these results, Sánchez (2003: 15) formulates the functional convergence hypotheses:

Convergence, the specification of a common set of features shared by the equivalent functional categories in the two languages spoken by a bilingual individual, takes place when a set of

features that is not activated in language A is frequently activated by input in language B in the bilingual mind. Convergence may be the result of the fusion of features . . . or it may be the result of the emergence of a new functional category.

By giving concise structural content to the description of grammatical change, developmental motivation consistent with empirical evidence, and a framework that acknowledges changes to both L1 and L2, Sánchez' study makes important contributions to the documentation of Quechua, of Andean Spanish, and to the field of second language acquisition. Her hypothesis has been widely cited in the literature.⁸

Among non-developmental studies of syntax there are several interesting articles on the acquisition of word order. A study by Camacho (1999) examines word order in end-state Quechua–Spanish within a minimalist framework; like Luján et al. (1984) he proposes that Quechua-speaking children transfer syntactic properties of their L1 to L2. In addition, he proposes that they transfer pragmatic properties which, taken together with the former, lead to higher frequencies of OV word order than are standard in Spanish. The syntactic element that he claims contributes to OV order includes a parameter that allows null objects with definite, specific antecedents in Quechua; the discourse-related parameter is a formal feature that triggers object movement for sentential focus, causing OV to be the default order for Quechua. He observes that among several competing hypotheses that account for the development of functional structure in L2, the evidence for transfer from L1 can best be accounted for by Schwartz and Sprouse's Full Transfer/ Full Access hypothesis (1994, 1996) rather than Vainikka and Young-Scholten's (1994) Minimal Trees hypothesis or Eubank's (1994, 1996) Valueless Features hypothesis.

Camacho's study is important in ways that pertain to more than his findings about second language acquisition. Since there is scant documentation of Quechua and Andean Spanish syntax in the literature, his clear and detailed contrastive analysis of the factors underlying word order options constitutes a key contribution to our understanding of both languages.

Camacho's results are echoed in a sociolinguistic study of word order in Andean Spanish near Cuzco (F Ocampo and Klee, 1995), which finds a higher than standard incidence of OV word order in a town where most speakers are Quechua–Spanish bilinguals (the highest incidence correlates with low social class and use of Quechua as a dominant language). Their study contains interesting control data from monolinguals in Argentina, outside the contact area. They claim that syntactic characteristics of Spanish are impermeable to Quechua syntactic influence, but that pragmatic or discursive functions related to word order have transferred.

These findings are unequivocally confirmed in a recent end-state study by Muntendam (2008), which pulls apart speakers' knowledge of syntax and discourse pragmatics in both the Spanish and Quechua of Ecuadorian, Peruvian and Bolivian Quechua speakers. She challenges the notion that OV word order is related to syntactic transfer at all. She conducts syntactic tests to show that Andean Spanish speakers in the three countries exhibit weak crossover effects and long distance movement of left dislocated focalized elements in their Spanish, just as Standard Spanish speakers do. She then carries out the same tests in Quechua to show that weak crossover and long distance movement are entirely absent in left peripheral focalized elements in Quechua. These tests suggest that the underlying representation of L2 Quechua Spanish is the same as that of Standard

Table 3 Examples of adult Quechua–Spanish epistemic calques

-sils:	
<i>dice</i>	(94) A veces dicen que, ¿cómo se llama? Quechua es solo hablan los cholos, los indios, campos dicen , pero no es literally: 'Sometimes (they) say that, what is it called? Quechua is only (they) speak the cholos, the Indians, countrysides (they) say, but it isn't.'
-miln and -rqa:	
<i>pues</i>	(100) Hermoso quechua es pue literally: 'Beautiful Quechua is', which would be realized standardly as <i>Quechua es hermoso</i> , 'Quechua is beautiful',
<i>así, sí</i>	(105) Es bonito para conversar así con mis amigos sí , no? '(It) is great to talk with friends, right?'
elongated [s]	(107) Porque los Incas sssssss así antes hablaban Quechua 'Because the Incas used to speak Quechua'
word-final voiceless fricative [r]	(108) Porque puedo comunicar con las personasss que no saben hablar que son del campo 'Because (I) can communicate with the people who don't know how to speak who are from the countryside'
nonstandard pluralization, <i>siempre</i>	(106) Yo de vez en cuando siempre escucho en ¿cómo se llama?, radios en quechua 'I sometimes listen to, what's (it) called? radio in Quechua'

Notes: Some examples contain more than one type of calque

Source: from Manley, 2004: 189–93

Spanish. Muntendam proposes that pragmatic transfer may be the cause of the high frequency of OV order in Andean Spanish. Furthermore, she suggests that pragmatic transfer could either result from a loss of the Standard Spanish focalizing function of left dislocation in the Andean Spanish pragmatic system, or from an overgeneralization of it; she opts for the second hypothesis, but states that this remains to be tested.

4 Acquisition of discourse pragmatics in Quechua–Spanish

What kind of structures with evidential meaning arise in the second language grammar of a speaker whose L1 realizes evidentiality morphosyntactically, while it is mostly absent from expression in L2? Studies of Andean Spanish in Peru and Bolivia have established at least two grammatical means that Quechua speakers use to reconfigure existing Spanish elements to express evidential meanings. The first is the re-purposing of perfect tenses in past narrations to encompass what is obligatorily expressed by evidential markers in Cuzco and Conchucos Quechua (DM Hintz, 2007, 2008; Klee and A Ocampo, 1995). The second is the appropriation of a particle *dizque* as a reportative evidential marker in Valley Spanish in Bolivia (Babel, 2009). A third study (Manley, 2004, 2007) suggests that *dice* serves as a reportative marker in Cuzco, while at least seven additional strategies calque the Quechua *-mi/-n* and *-rqa* epistemic markers: (1) *pues*, (2) *así*, (3) *sí*, (4) elongated [s], (5) nonstandard pluralization, (6) *siempre*, and (7) word-final voiceless fricative [r]. Examples are given in Table 3.

Quechua is a discourse-oriented language, in which many relations of interlocutors are marked syntactically as well as phonologically. The grammatical representation of evidentiality is obligatory in many contexts of Quechua but not Spanish. Foundational work is relatively complete in this area, making it suitable for SLA study; adult grammars of Quechua evidentiality have been developed; child L1 acquisition studies (see Courtney mentioned above) and end-state studies of contact varieties have all been completed, suggesting that L1 to L2 transfer does occur. The next step would be to conduct developmental studies in this area.

Developmental studies of Quechua could illuminate a relatively unexplored conjecture in the field of generative first language acquisition: the idea that syntactic principles are constant, while pragmatic principles mature (Chien and Wexler, 1990). Careful work by Ellen Courtney on L1 acquisition of evidentials in child Quechua confirms that adult-like use of certain evidential morphemes begins at age 2 but is not complete until around age 6. The disjunction between mastery of adult-like syntax vs. pragmatics is important; if such a disjunction exists, the study of Quechua–Spanish acquisition of evidential meanings has the potential to make important contributions not only to the continued documentation of child Quechua and Spanish but also to the study of language acquisition in general.

IV The SLA researcher's relationship to issues of language endangerment

SLA researchers often straddle the fields of theoretical linguistics and psycholinguistics, but those who work with Quechua have an additional need to master fieldwork techniques and familiarize themselves with a growing body of work on endangered languages; for exemplary work see Bower (2008, 2010, and the online resource E-MELD). The UNESCO Atlas of Language Endangerment (Moseley, 2010) lists 14 varieties of Quechua, several of which are critically endangered. The largest Cuzco and South Bolivian dialects are listed as vulnerable, with the criterion that 'most children speak the language, but it may be restricted to certain domains (e.g. home).' Recent Peruvian census data suggest a 3.3% decline in the declaration of Quechua as the language learned in childhood between 1993 and 2007 (Censo Nacional, 2007: 2:4:1).

A crucial effect of language endangerment is the potential loss of data to the scientific community that could give us insight into the fundamental questions of our field. More notable is the cost to the communities of origin in terms of their native scientific and artistic achievements, spiritual relationships and sense of historical identity (Castillo and Bolivar, 2006; H Peralta, 2008). For both scientific and humanitarian reasons, linguists who work with Quechua are increasingly cultivating partnerships within the communities of origin and participating in revitalization efforts.⁹

The benefits of involving members of the communities of origin in every step of scientific work cannot be underestimated; conversely, the risks of not doing so include ignorance and misinterpretation of key facts (Lefebvre and Muysken, 1988: xvi–xvii). Fortunately, there is a growing body of exemplary methods for developing effective scientific partnerships with indigenous communities (Benedicto et al., 2009). Indigenous researchers and educators at universities in the Andean countries are a source of

important contact and collaboration for linguists working with Quechua and Aymara. Other sources of contact are the non-governmental organizations that serve recent migrants to Andean cities. The more challenging work is to be done developing research partnerships in the countryside, where scientific inquiry must compete for attention with community efforts at daily survival, and tools as rudimentary as pencil and paper must be backpacked in by the researcher.

Emmon Bach eloquently sets out a rationale and a program for collaboration in his article 'Endangered languages and the linguist' (Bach, 1995) summarized as follows:

Considerable care and much effort and material support should be given to training native linguists and philologists to be the caretakers and purveyors of their linguistic heritages and to setting up new institutions both for their training and for the continued work of fostering and preserving those heritages.

(Bach, 1995: 42)

Many SLA researchers are in a unique position to assist with this challenge as their formal training and experience often requires mastery of such applied areas as second language teaching methodologies, language assessment and curriculum development. When this training and experience is offered in dialogue with the needs and expertise of indigenous communities, useful partnerships may ensue (Kalt and Castillo, 2011).

V Conclusions

Much remains to be done in the study of Spanish as a second language where the first language is Quechua. Developmental L2 Quechua–Spanish phonology is a virtually untapped research area; the reconfiguration of functional structure in L2 and the acquisition of evidential morphology are areas especially suitable for further exploration.

The field is energized and results are more reliable whenever there is participation by native speaker linguists and community members who contribute not only as experimental participants, but also as interviewers, transcriptionists, instrument designers and researchers. Indigenous researchers typically must travel far from their communities of origin to study, and those who return often do so on a sporadic basis, some deciding to dedicate their training and skill to teacher education or curriculum development. These individuals, as well as current members of the communities of origin, should be consulted as to what kinds of inquiry are of most value to them in their efforts to revitalize their language. It is ultimately the native speaker communities to whom linguistic science is indebted, and their insights and questions should carry the most weight.

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Notes

1. A recent undergraduate thesis on Yambata Quechua, a variant of Norte de Potosí dialect by heritage speaker E Peralta (2006), is a well-organized descriptive work.
2. Of these two authors only Vengoa is a native speaker.
3. Quechua has been written by Catholic authorities since the conquest (Durstun, 2007). Since the 1960s, literacy efforts have continued to be a priority of religious groups, non-governmental organizations and the governments of Andean countries, with a variety of motives and levels of success in aligning with the needs and purposes of indigenous communities.
4. For a critique of theories about the relationship between Quechua and Aymara, see Campbell, 1997: 273–83.
5. Research on Guaraní and the contributions of other indigenous languages is productive but outside the scope of this article; similarly we have not considered the unusual trade language called Media Lengua by Pieter Muysken, which he characterizes as having a Spanish lexicon with Quechua grammar (Muysten, 1997).
6. I have translated nearly word for word from Godenzzi's manuscript, and added English glosses under examples. He offers extensive examples and discussion for each strategy.
7. It has also spurred endless debates within the educated Andean community, particularly in the Academia Mayor de la Lengua Quechua in Cuzco, as to whether to write Quechua with three or five vowels. Linguists consistently point to the three-vowel distinction as the only relevant contrast in Quechua, but some educated bilinguals fear that writing the L1 with fewer vowels than Spanish dishonors their language or will disadvantage students in their later acquisition of Spanish.
8. One of the most interesting articles to cite the functional convergence hypothesis is a study of adult grammar by DJ Hintz (2009) detailing reconfiguration of Conchucos Quechua verbal constructions. Hintz claims that Quechua is moving toward more analytic and less polysynthetic verbal constructions due to contact with Spanish.
9. Efforts to develop Quechua grammatical expertise among native speakers are carried out by non-governmental organizations such as UNICEF and the Foundation for Endangered Languages (see Aráoz, Castillo and Kalt, 2010) and by institutions of higher learning such as ProeEIB Andes at the Universidad Mayor San Simón, Cochabamba, Bolivia and by religious groups. For a history of translation and literacy projects of the Bolivian Bible Society, see Goytia, 2010: 81–104.

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